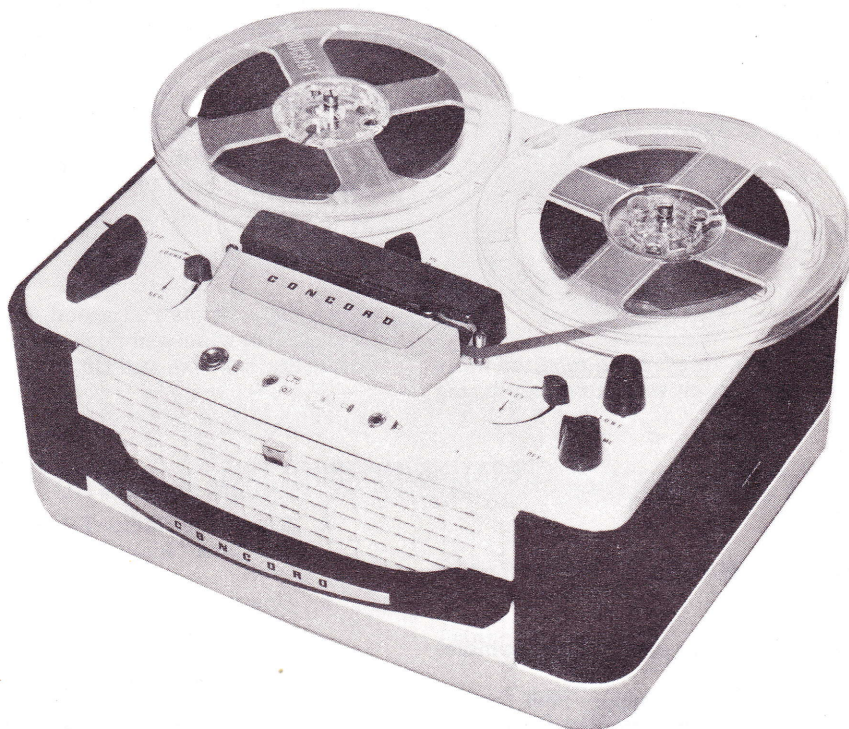


CONCORD
MODEL 107



CONCORD
MODEL 107

GENERAL INFORMATION

Concord Model 107 is a two-speed, dual-track tape recorder. The functions of operation are controlled by one knob. A record safety lock is provided to prevent accidental erasure.

Recordings can be made from a radio, TV, phonograph or directly from a microphone.

The two tape speeds are 3 3/4 ips and 7 1/2 ips.

Connect recorder to an outlet supplying 110 - 120 volts, 60 cycle, AC supply only.

Supplied By:

Concord Electronics Corp.
809 North Cahuenga Boulevard
Los Angeles 38, California

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana



The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of CQ500

the particular type of replacement part listed. Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. ©1962 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana. Printed in U.S. of America

FUNCTION OF CONTROLS AND JACKS

Function

Turning the control to the left from Stop position rewinds the tape onto the supply reel at a rapid speed.

Turning the control to the right from Stop position winds tape from the supply reel to the take-up reel.

Record Safety Lock

Pulling lock toward the front of the recorder, with the Function Control in the Forward position, places the unit in the Record mode of operation.

Mic Input

Plug the microphone into this jack to make a recording.

Earphone Jack

Plug the earphone into this jack to monitor while recording. It may be used for private listening during playback.

Output Jack

This jack may be used to play a recording through an external speaker.

Fast Forward

With the Function Control in the Forward position, pull the Fast Forward Lever toward the front of the recorder. Tape will advance to a desired spot at a rapid speed. To stop the forward motion of the tape, return the Function Control to Stop position.

Remote Control Switch Socket

The Remote Control Switch plugs into this socket and the operator can control the tape motion in Play or Record mode.

Speed Selector

Selects desired speed, either 3 3/4 or 7 1/2 ips. Turn clockwise and push down for 7 1/2 ips. Turn counterclockwise and lift for 3 3/4 ips.

OPERATING INSTRUCTIONS

Threading the Tape

1. Place an empty reel on the take-up (right) spindle.
2. Place a reel of tape on the supply (left) spindle.
3. Unwind 14" of tape from the supply reel, hold a section taut and insert it into the tape slot.
4. Insert the free end into one of the slots in the take-up reel.
5. Turn the take-up reel a few turns counterclockwise to secure the tape to the reel and to take up all slack between reels.

Microphone Recording

1. Thread the tape.
2. Insert the microphone plug into the Mic Input Jack.
3. Turn the On-Off switch to On.
4. Turn the Speed Selector to the desired speed.
5. Turn the Function Control to Forward.
6. Pull the Record Safety Lock toward the front of the recorder.
7. Hold the microphone 6 to 12 inches from your mouth, speak in a normal manner, and adjust the Volume Control until the two halves of the magic eye are just closed on the loudest passage.

Recording from a Radio or TV

1. Thread the tape.

2. Insert the Radio-TV-Phono patch cord plug into the "Aux" Input jack.
3. Connect the other end of the patch cord across the speaker voice coil.
4. Turn the Speed Selector to the desired speed.
5. Turn the On-Off switch to On.
6. Turn the Function Control to Forward.
7. Pull the Record Safety Lock toward the front of the recorder.
8. Adjust the volume control until the loudest passage just closes the two halves of the magic eye.

Recording from a Phonograph

1. Thread the tape.
2. Insert the Radio-TV-Phono patch cord plug into the "Aux" Input jack.
3. Connect the other end of the patch cord to pick-up leads of the phonograph.
4. Turn Speed Selector to the desired speed.
5. Turn the On-Off switch to On.
6. Turn the Function Control to Forward.
7. Pull the Record Safety Lock toward the front of the recorder.
8. Adjust the Volume Control until the two halves of the magic eye just close on the loudest passage.

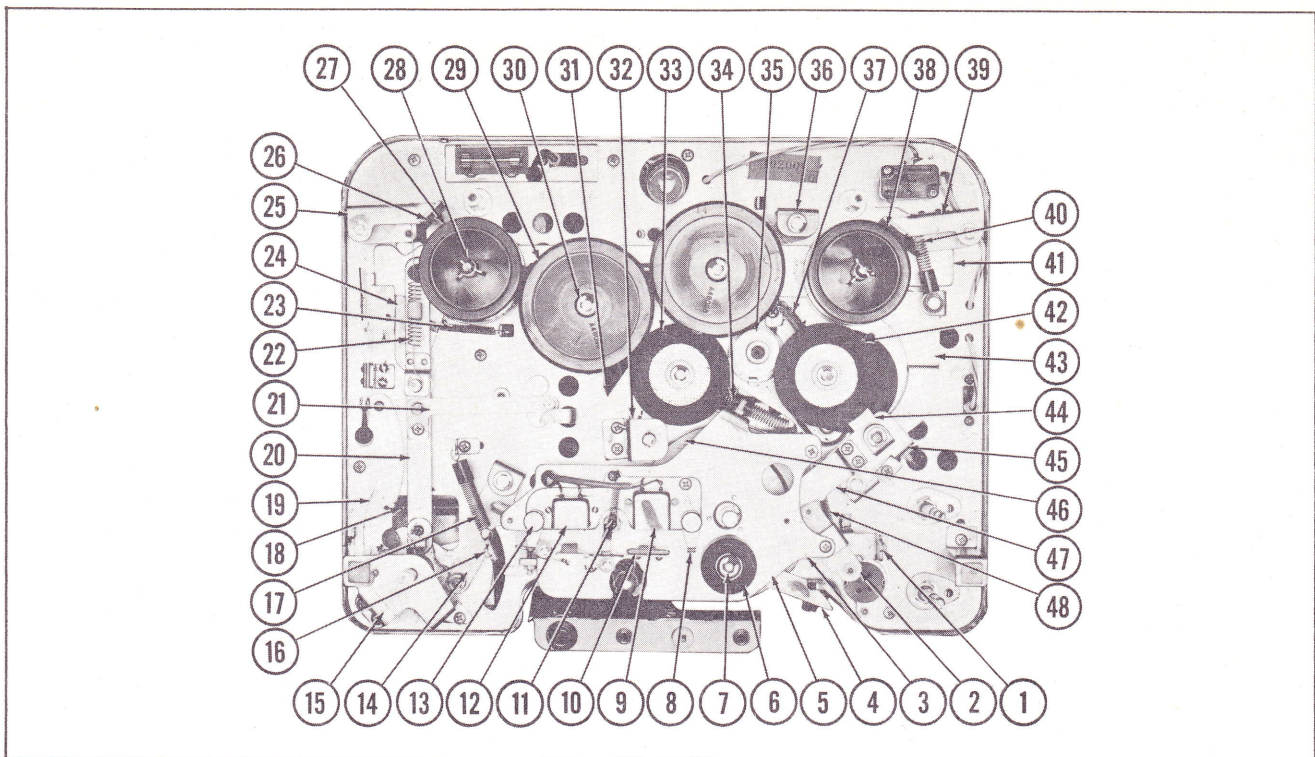


FIG. 1 TOP VIEW OF MECHANISM WITH COVERS REMOVED (ITEMS 1-48)

Playback

1. Thread the tape.
2. Turn the recorder on.
3. Select the correct speed.
4. Turn the Function Control to Forward.
5. Adjust the volume to a desired level.

Rewind

Turn the Function Control to Rewind when a desired section of the tape is to be played back or to rewind the tape from the take-up reel onto the supply reel.

Fast Forward

Turn the Function Control to Forward and then pull the Fast Forward lever toward the front of the

recorder when it is desired to skip several feet of tape to a certain section.

External Speaker

Connect an external speaker to one end of the patch cord and plug the other into the Output jack when it is desirable to play back a recording through an external speaker instead of the self-contained speaker of the recorder.

Earphone

The earphone may be plugged into the earphone jack to monitor a recording being made, or to listen to prerecorded tapes.

Remote Control

The recorder can be used for dictation or play back when the Remote Control switch is plugged into the Remote Control switch socket.

DISASSEMBLY

Removing the Top Panel

1. Remove all control knobs.
2. Remove the head cover.
3. Remove the two tape guides .
4. Remove two screws located at the reel pan bases.
5. Lift the panel off.
6. Reverse the foregoing procedure to reassemble.

Removing the Recorder from the Cabinet

1. Remove the top panel.
2. Remove three screws from bottom of cabinet.
3. Remove two screws from rear of cabinet.
4. Lift the recorder up and unplug the speaker.
5. Lift the recorder the rest of the way out of the cabinet.
6. Reverse the foregoing procedure to reassemble.

ADJUSTMENTS

Idler Wheel (33)

When the idler wheel (33) is in the Rewind or Stop position, the distance from the idler wheel to the larger diameter of the motor pulley is 5/32". To obtain this distance, adjust the two screws on selector lever (21). The tension on idler spring (34), measured by a spring scale connected to the center shaft of the idler wheel (33), is 1 lb. \pm 0.7 oz. at 3 3/4 ips and 1 lb. 7 oz. at 7 1/2 ips.

Idler Wheel (42)

The distance between idler wheel (42) and motor pulley is 3/16" and between idler wheel (42) take-up reel hub is 5/64" when the idler wheel (42) is in its disengaged position. To obtain these distances, adjust the two screws on the fast forward arm (45). The tension on idler spring (37), measured by a spring scale connected to the shaft of the idler wheel, is 12.7 oz. \pm 0.7 oz.

Record-Playback Head

1. Thread an alignment tape on the recorder.
2. Adjust the mounting while playing back at any frequency above 7000 cps until the maximum output is obtained.

Record Bias

Set Selector Switch to Record position. Connect VTVM across Record play head. Adjust C13 for a meter reading between -44 and -55 volts.

Record Level

Inject 1000 cycle at .98 -1.55 millivolts to the Mic. input jack. Set Selector Switch to Record. Adjust R3 until record level indicator shadows just close.

CLEANING

Record head (9), erase head (12), pressure roller (6), tape guides (8) and (13) and capstan are subject to tape residue as it passes these parts. Clean these parts with a soft cloth and alcohol.

Clean all idler wheels or any rotating part that contacts the idler wheels with alcohol.

LUBRICATION

Lubricate the following parts as follows with a good light weight oil.

1. Flywheel (46) — 5 drops every 300 hours through hole at the bottom of capstan.
2. Idler Wheels (29), (33), and (42) — 2 drops to shaft and 1 drop to bearing.
3. Pressure Roller (6) — 2 drops to shaft and 1 drop to bearing.
4. Rewind Pulley (30) — 2 drops to shaft and 1 drop to bearing.
5. Reel Hubs (27) — 2 drops to shaft and 2 drops to bearing.
6. Friction Roller (59) — 1 drop to bearing.
7. Selector Cam — 1 drop to bearing.

TROUBLE CHART

Symptom	Cause	Remedy
Capstan does not rotate.	1. Defective motor (35).	1. Replace motor (35).
	2. Capstan idler wheel (33), motor pulley, or flywheel (46) oily.	2. Clean with alcohol.
	3. Idler wheel tension spring (34) defective.	3. Replace.
	4. Idler wheel (33) and flywheel (46) insufficiently lubricated causing them to bind.	4. Clean the spindle bearing and lubricate.
	5. Capstan screw loose.	5. Tighten capstan screw.
	6. Motor pulley loose.	6. Tighten set screw.
Tape speed too fast.	1. Pressure roller tension spring defective.	1. If broken, replace. If insufficient tension, shorten.
Weak output.	1. Misaligned record-play head (19).	1. See "Adjustments."
	2. Loose pressure pad retaining screw.	2. Align the pressure pad so it is parallel with the head and tighten the retaining screw.
	3. Pressure pad worn and doesn't contact the head.	3. Replace pressure pad.
	4. Record-play head (9) defective.	4. Replace record-play head (9).
	5. Magnetized record-play head (9).	5. Demagnetize the head.

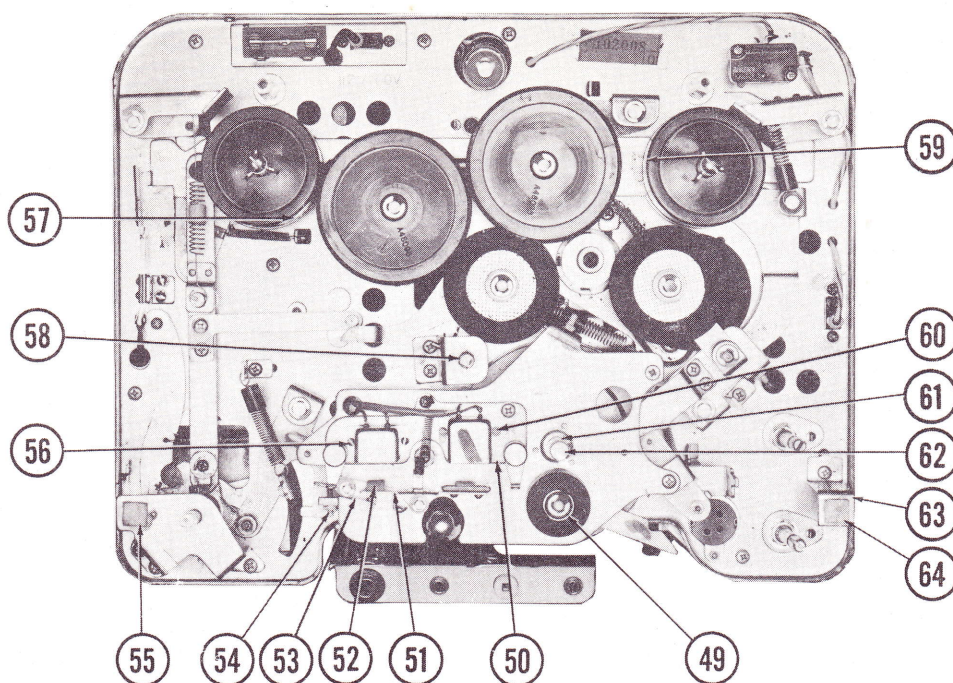


FIG. 2 TOP VIEW OF MECHANISM WITH COVERS REMOVED (ITEMS 49-64)

TROUBLE CHART (CON'T.)

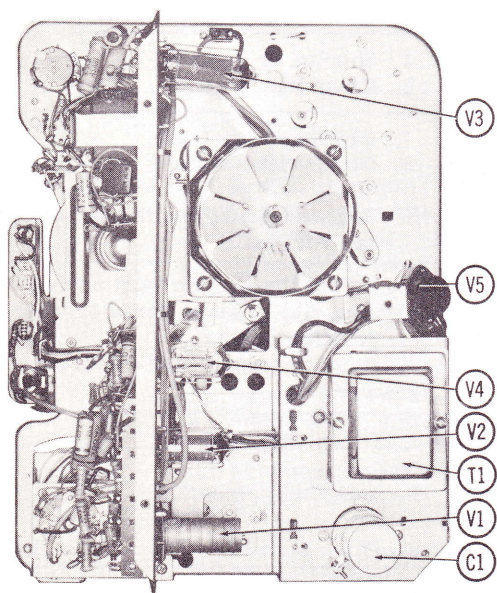
Symptom	Cause	Remedy
Poor rewind.	<ol style="list-style-type: none">1. Rewind idler wheels (29) worn.2. Rewind idlerwheel tension spring weak or broken.3. Driving surfaces oily.4. Reel hub, shaft bearing, and idler wheels (29) insufficiently lubricated.	<ol style="list-style-type: none">1. Replace.2. If weak, shorten; if broken, replace.3. Clean with alcohol.4. Clean and lubricate.
Faulty brake.	<ol style="list-style-type: none">1. Tension spring (22) loose or broken.2. Oily parts.	<ol style="list-style-type: none">1. Shorten or replace.2. Clean with alcohol.
No takeup.	<ol style="list-style-type: none">1. Rotating parts binding.2. Idler wheel (42), motor pulley, and friction roller oily.3. Reel does not rotate.	<ol style="list-style-type: none">1. Clean and lubricate.2. Clean with alcohol.3. Replace the felt on the bottom of the reel hub.
No fast	d. <ol style="list-style-type: none">1. Idler wheel (42) does not contact the motor pulley.2. Idler wheel (42) or reel hub (38) binding due to lack of lubrication.	<ol style="list-style-type: none">1. Adjust the fast forward adjusting cam (45) to leave the idler wheel advance farther.2. Remove, clean, and lubricate.
Speed too slow.	<ol style="list-style-type: none">1. Motor pulley, idler wheels (42), or flywheel (46) slipping.2. Too much tension on idler wheel tension spring (37) or pressure roller tension spring.	<ol style="list-style-type: none">1. Clean with alcohol.2. Lengthen the spring.
Wow or flutter.	<ol style="list-style-type: none">1. Motor defective.2. Oily rotating parts.3. Defective pressure roller (6).4. Take-up idler wheel (42) defective.5. Defective flywheel bearing.6. Lack of lubrication on rotating parts.7. Capstan holding screw (62) loose.	<ol style="list-style-type: none">1. Replace.2. Clean with alcohol.3. Replace pressure roller (6).4. Replace take-up idler wheel (42).5. Replace bearing.6. Lubricate rotating parts.7. Tighten holding screw (62).

CONCORD
MODEL 107

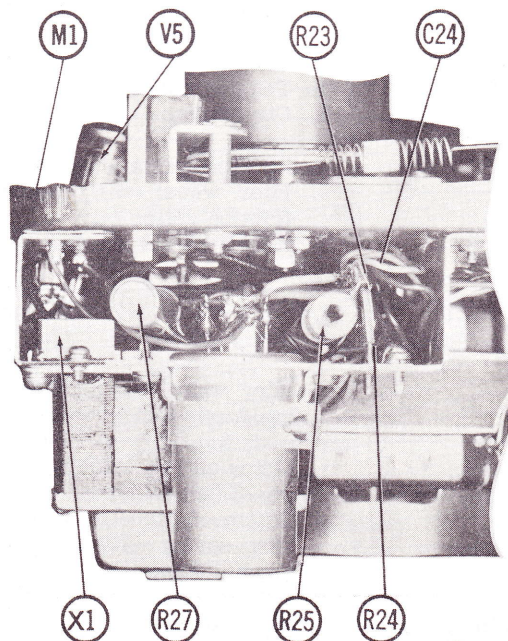
FOLDER 5

MECHANICAL PARTS LIST

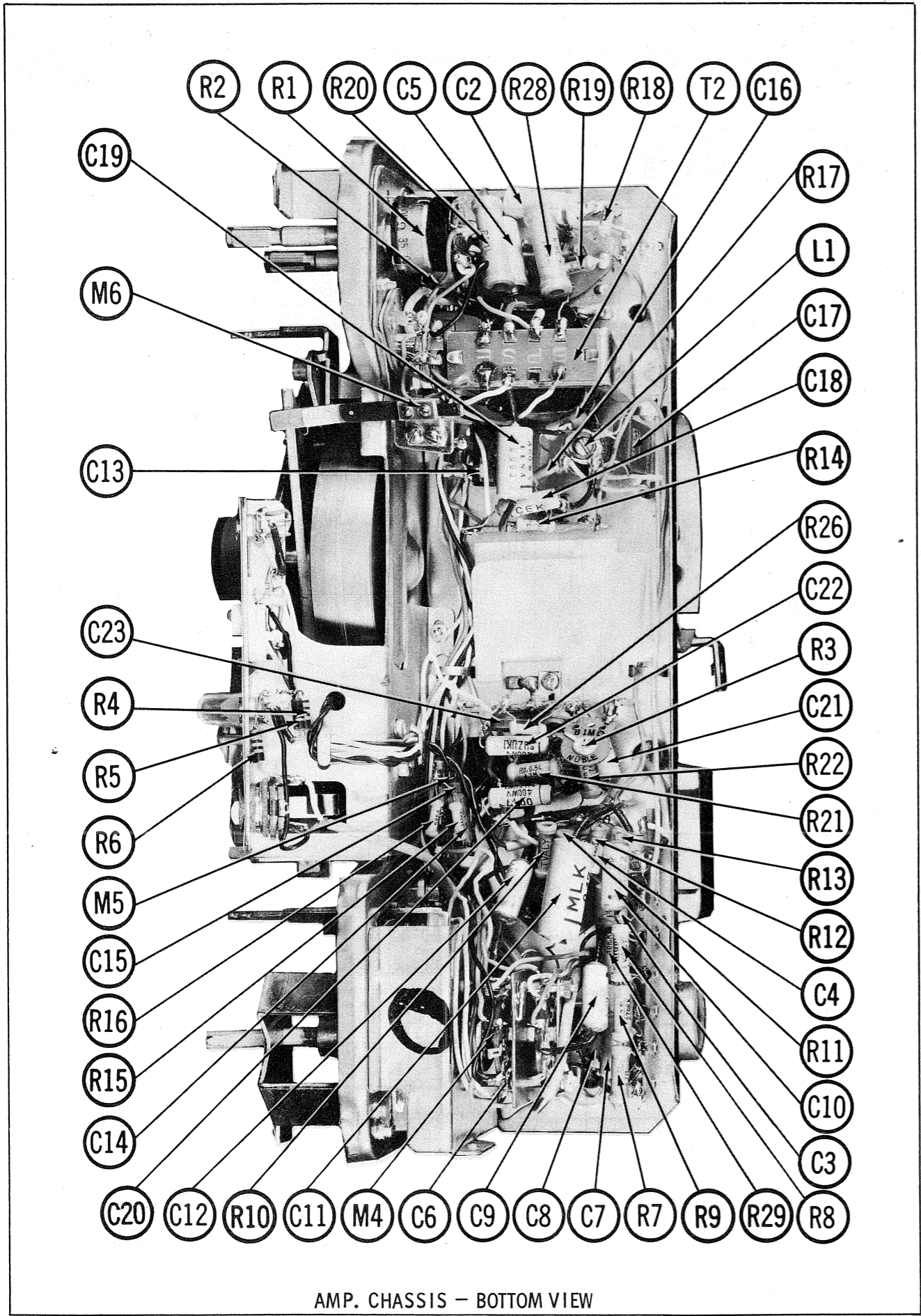
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	A-65327	Lever A, Fast Forward	33	A-48104	Idler Wheel
2	A-65318	Lever B, Fast Forward	34	A-70125	Spring - A, Idler
3	A-70129A	Spring, Fast Forward	35	A-48114	Motor
4	A-67656	Arm, Pressure Roller	36	A-65319	Pulley Arm, Rewind
5	A-65351	Board, Head Retaining	37	A-70077-A	Spring, Switch Lever
6	A-48103	Pressure Roller	38	A-85534	Leather Brake
7		Retaining Ring, E4	39	A-65445	Brake Lever with Leaf Spring
8	A-64950	Tape Guide	40	A-70126-C	Spring-M, Take-up Brake Lever
9	A-46030	Record-Play Head	41	A-65354	Slide, Selector
10	A-85153	Pad, Felt	42	A-48104	Idler Wheel (2)
11	A-70071-B	Pad Spring	43	A-65317	Lever, Rewind
12	A-46028	Erase Head	44	A-65324	Arm - B, Fast Forward
13	A-67680	Tape Guide - C	45	A-65344	Arm - A, Fast Forward
14	A-65347	Stop Lever	46	A-48097	Flywheel
15	A-65328	Selector Shaft Holder	47	A-65326	Adjusting Cam, Fast Forward
16	A-6534	Arm, Record Switch	48		Spring, Fast Forward Lever-A
17	A-70125	Idler Spring - A	49	A-65325	Oil Cap
18	A-70122	Spring, Pressure Roller	50	A-65319	Board A, Head Retaining
19	A-65345	Interlocking Arm	51	A-64952-A	Retainer A-K, Pressure Pad
20	A-65330	Selector Lever - A	52	A-85153	Felt Pad
21	A-65353	Selector Lever - B	53	A-64953	Arm B, Pressure Pad
22	A-70127-C	Spring - M, Rewind Brake	54		Screw, 3X12
23		Spring, Slide Supporter	55	A-85476	Felt, Mounting Panel
24	A-65454	Slide Supporter	56		Screw, BC-2006
25	A-65350	Lever, Rewind Brake	57	A-85473	Felt, Function
26	A-83068	Rubber Brake	58	A-67671	Shaft, Speed Change
27	A-48099	Reel Hub	59	A-48100	Roller, Friction
28	A-67661	Screw, Reel	60		Screw, BC-2006
29	A-48098	Drive Pulley, Rewind	61	A-48102	Capstan, 60 Cycle
30		"E" Ring, VB201	62	A-67662	Retaining Screw, Capstan
31	A-65320	Lever, Idler	63	A-85476	Felt, Mounting Plate
32	A-65323	Guide, Speed Change			



BOTTOM VIEW OF COMPLETE UNIT



BOTTOM VIEW OF POWER SUPPLY



AMP. CHASSIS - BOTTOM VIEW

ELECT. PARTS LIST AND DESCRIPTIONS

AMPEREX - GENERAL ELECTRIC				RAYTHEON - SYLVANIA			
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE		
V1	AF Amplifier	6AU6	V4	AF Amplifier-Record Level Rectifier	6AV6		
V2	AF Amplifier	6AU6	V5	Record Level Indicator	6ME10		
V3	Output-Bias Osc.	30A5					

POWER RECTIFIERS & SIGNAL DIODES				
ITEM No.	CURRENT RATING (Measured)	RECTIFIERS		NOTES
		SARKES RCA PART No.	RAYTHEON PART No.	
X1	.052A	G-59006*	100 *	* Selenium † Silicon

ELECTROLYTIC CAPACITORS						
ITEM No.	RATING CAP.	VOLT.	REPLACEMENT DATA			
			CONCORD PART No.	AEROVOX PART No.	CORNEILL-DUBILIER PART No.	GENERAL ELECTRIC PART No.
C1A	.60	150	EL-10	AFH2-16	C010	XC3-31
C1B	.40	150		PRH400		FF311.6
C1C	.3	150		SRE150V5		TMV3136
C2	.5	150	ET07	SRE150V5		TMV5-150
C3	.5	150	ET10	SRE150V5		TMV5-150
C4	.20	10	ET10	PT742		TMV20-15
C5	.25	25	ET08	PRH260		TMV20-15
						TMV25-25
						TMV25-32
						TMV25-42
						TMV25-125
						TMV25-225
						TMV25-425
						TMV25-1207

FIXED CAPACITORS						
ITEM No.	RATING	REMARKS	REPLACEMENT DATA			
			AEROVOX PART No.	CENTRALAB PART No.	CORNEILL-DUBILIER PART No.	ELMENCOPART No.
C6	.250 10%		1469-00025	TCZ-270	22R5T25	CM-19B-251K
C7	.01 400V		SI 10000	D6-103	BYA10S1	CCD-103
C8	.1 400V		P488N-1	DD-203	CUB4P1	4DP-3-104
C9	.022 400V		P488N-022	DD-203	CUB4S22	4DP-2-223
C10	.022 400V		P488N-022	DD-203	CUB4S22	4DP-2-223
C11	.47 300V		P488N-47	DD-203	CUB4P47	4DP-6-474
C12	.022 400V		P488N-022	DD-203	CUB4S22	4DP-2-223
C13	20-220	#T-21019				464
C14	250 10%		1469-00025	TCZ-270	22R5T25	CM-19B-251K
C15	680 10%		1469-00068		585T68	CM-19B-681K
C16	.0022 400V		P488N-0022	D6-222	CUB6D22	6DP-1-222
C17	.0047 10%		1464-0047		IR5D47	CM-20B-472K

FIXED CAPACITORS (cont)						
ITEM No.	RATING	REMARKS	REPLACEMENT DATA			
			AEROVOX PART No.	CENTRALAB PART No.	CORNEILL-DUBILIER PART No.	ELMENCOPART No.
C18	.004 400V		P488N-004	D6-402	CUB6D4	6DP-1-402
C19	.0047 400V		P488N-047	DD-503	CUB6S47	4DP-3-473
C20	.0047 400V		P488N-0047	D6-472	CUB6D47	6DP-1-472
C21	.01 400V		P488N-01	D6-103	CUB4S1	4DP-1-103
C22	.0047 400V		P488N-0047	D6-472	CUB6D47	6DP-1-472
C23	.250 10%		1469-00025	TCZ-270	22R5T25	CM-19B-251K
C24	.01 400V		P488N-01	D6-103	CUB4S1	4DP-1-103

CONTROLS						
ITEM No.	USE	RESISTANCE	REPLACEMENT DATA			
			CONCORD PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.
R1	Volume & Switch	500K	A-36506	B-60, KR-1, B-60-S, (AB-60, KR-1, AK-1)	A47-500K-Z, SWE-12, KSS-3	Q13-133, 76-1 or (BUI, CF25, SSI, GC) †
R2	Tone	20K	A-36031	B-22, (AB-22, AK-1)	A47-20K-S, KSS-3	Q11-119
R3	Level Adj.	1meg	A-36032			

† "SNAPTROL".

RESISTORS						
ITEM No.	RATING	REMARKS	REPLACEMENT DATA			
			IRC PART No.	WORKMAN PART No.	RATING	WORKMAN PART No.
R4	470K					
R5	10K					
R6	680K					
R7	4.7meg					
R8	100K					
R9	270K					
R10	100K					
R11	270K					
R12	1200Q					
R13	220Q					
R14	8200Q					
R15	150K					
R16	56K					

ELECT. PARTS LIST AND DESCRIPTIONS (Continued)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		CONCORD PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman PART No.	
L1	Bias Osc.	G-160-13					Adjust for 30KC \pm 2KC

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	CONCORD PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	117VAC @ .24A (.84A)*	120VAC @ .115A Tap @ 300VAC .150A	6.7V @ 1A						* With Motor

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	CONCORD PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	2700 Ω	3-4 Ω	G-14210	A-3025 $\text{\textcircled{1}}$	A-3332 $\text{\textcircled{1}}$	24S53 $\text{\textcircled{1}}$	S-12X $\text{\textcircled{1}}$	$\text{\textcircled{1}}$ Drill New Mounting Hole(s)

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	CONCORD PART No.	QUAM PART No.	
SP1	4"x 6"	PM	3-4 Ω	A-45221	46A15	(Speaker Stamped PD-8401)

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			CONCORD PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	3AG	.7A		R-43304	312.750	353001	AGC 3/4	4405

MISCELLANEOUS

ITEM No.	PART NAME	CONCORD PART No.	NOTES
M2	Head	A-46030	Play-Record
M3	Head	A-46028	Erase
M4	Switch	A-42534	Selector (Rotary Wafer Type, Spring-Loaded, Normally in Play Position)
M5	Switch	A-42532	Record Equalization (Spring-Leaf Type)
M6	Switch	A-42531	Motor (Spring-Leaf Type)
	Microphone Earphone	A-46035	
		A-45220	

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART No.	DESCRIPTION
Knob	A-87073	Volume, Tone
Knob	A-87071	Selector
Knob	A-87072	Speed Selector
Knob	A-87074	Slide
Cabinet	A-84096	Assembly
Cover	A-84097	Assembly

WIRING DATA

General-use Unshielded Hook-up Wire Use BELDEN No. 8530 (Solid) Available in 12 Colors
8524 (Stranded) Available in 12 Colors
Power Cord Use BELDEN No. 17106 (Plastic) or 17126 (Rubber) - 6 Ft.
17109 (Plastic) or 17129 (Rubber) - 9 Ft.
Power Cord (Interlock Type) Use BELDEN No. 8874 (Rubber) or 8895 (Plastic)
Low-Loss Shielded Lead (Interconnecting) Use BELDEN No. 8401 or 8421
Phono Pick-up Arm Cable Use BELDEN No. 8430 (Two Conductor-Unshielded)
8429 (Two Conductor-Shielded)
8419 (Three Conductor-Shielded)

